

AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A method of supervising a failure of a system using a ~~timer~~ plurality of timers, comprising the steps of:

(a) activating one of said ~~timer~~ plurality of timers and determining whether said one timer is reset or not;

(b) counting down said activated timer if not reset;

(c) determining whether said activated timer has gone time out at a predetermined time;

(d) generating a signal for recovery from the failure in the case where said activated timer has gone time out, and when said signal for recovery is generated, executing a corresponding one of the steps of (i) setting a flag, (ii) outputting an interrupt signal, (iii) outputting a non-maskable interrupt and (iv) outputting a system reset signal; and

(e) ~~repetitively executing said repeating~~ steps (a) to (d) for ~~the next timer~~ another one of said plurality of timers if in the case where the failure cannot be recovered from after step (d),

wherein each time said signal for recovery is generated, a corresponding one of steps (i) to (iv) is executed in a manner that steps (i) to (iv) are executed sequentially one by one when steps (a) to (e) are repeatedly executed, thereby recovering from the failure in accordance with the degree of the failure progressively each time said step (e) is executed, and

wherein:

a plurality of registers are provided,

a plurality of conditions are respectively set for resetting said plurality of timers, said plurality of conditions corresponds to plural sets of values set in said plurality of registers, respectively, and

a reset operation to be performed on one of said plurality of registers corresponds to one of said plurality of conditions each time said step (e) is executed.

2. (Cancelled)

3. (Cancelled)

4. (Original) A failure supervising method according to Claim 1, wherein the step executed in accordance with said signal generated in said step (d) is recorded.

5. (Currently amended) An apparatus for supervising a failure of a system using a ~~timer~~ plurality of timers and a plurality of registers, comprising:

(a) means for activating one of said ~~timer~~ plurality of timers and determining whether said activated timer is reset or not;

(b) means for counting down said activated timer if not reset;

(c) means for determining whether said activated timer has gone time out at a predetermined time;

(d) means for generating a signal for recovery from the failure in the case where said activated timer has gone time out; and

(e) means for executing a corresponding one of the steps of (i) setting a flag, (ii) outputting an interrupt signal, (iii) outputting a non-maskable interrupt and (iv) outputting a system reset signal, responsive to said signal for recovery being generated;

(f) means for ~~repetitively~~ activating said means (a) to (e) ~~(d)~~ for the next timer another one of said plurality of timers if in the case where the failure cannot be recovered from after activating said means (e),

wherein each time said signal for recovery is generated, said means (e) executes a corresponding one of steps (i) to (iv) in a manner that steps (i) and (iv) are executed sequentially one by one when said means (a) to (e) are repeatedly activated, thereby recovering from the failure in accordance with the degree of the failure progressively each time said means (f) is executed, and

wherein:

a plurality of conditions are respectively set for resetting said plurality of timers,

said plurality of conditions correspond to plural sets of values set in said plurality of registers, respectively, and

a reset operation to be executed on one of said plurality of registers corresponds to one of said plurality of conditions each time said means (f) is activated.

6. (Cancelled)

7. (Cancelled)

8. (Original) A failure supervising apparatus according to Claim 5,

wherein said signal generating means includes means for recording the step executed in accordance with said generated signal.

9. (Currently amended) A method of supervising a failure of a system using a ~~timer~~ plurality of timers, comprising the steps of:

(a) counting down one of said timer plurality of timers in the case where ~~the~~ activated said one timer is activated and is not reset;

(b) ~~executing the steps~~ generating a signal for recovering from the failure in the case where said timer goes time out at a predetermined time, and when said signal for recovery is generated, executing a corresponding one of the steps of (i) setting a flag, (ii) outputting an interrupt signal, (iii) outputting a non-maskable interrupt and (iv) outputting a system reset signal; and

(c) in the case where said system fails to recover from the failure, repeatedly executing the steps (a) and (b) ~~for the next timer thereby to recover from the failure in accordance with the degree of the failure progressively in each stage~~ another one of said plurality of timers,

wherein each time said signal for recovery is generated, a corresponding one of the steps (i) to (iv) is executed in a manner that steps (i) to (iv) are executed sequentially one by one when steps (a) to (c) are repeatedly executed, thereby recovering from the failure in accordance with the degree of the failure progressively each time said step (c) is executed, and

wherein:

a plurality of registers are provided,

a plurality of conditions are respectively set for resetting said plurality of timers,
said plurality of conditions corresponds to plural sets of values set in said plurality of
registers, respectively, and
a reset operation to be performed on one of said plurality of registers corresponds to
one of said plurality of conditions each time said step (c) is executed.

10. (New) A method of claim 1, wherein information is written into said plurality of registers as said values from a supervisee.

11. (New) The apparatus of claim 5, wherein information is written into said plurality of registers as said values from a supervisee.

12. (New) The method of claim 9, wherein information is written into said plurality of registers as said values from a supervisee.